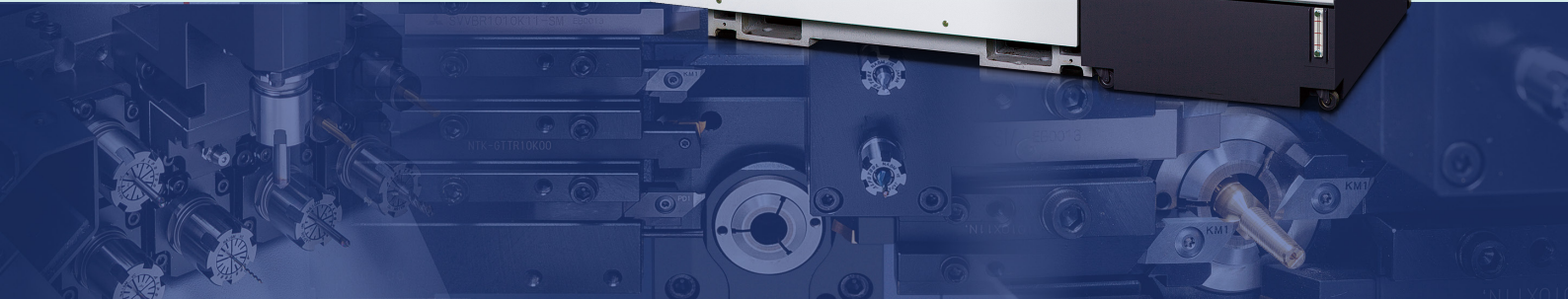




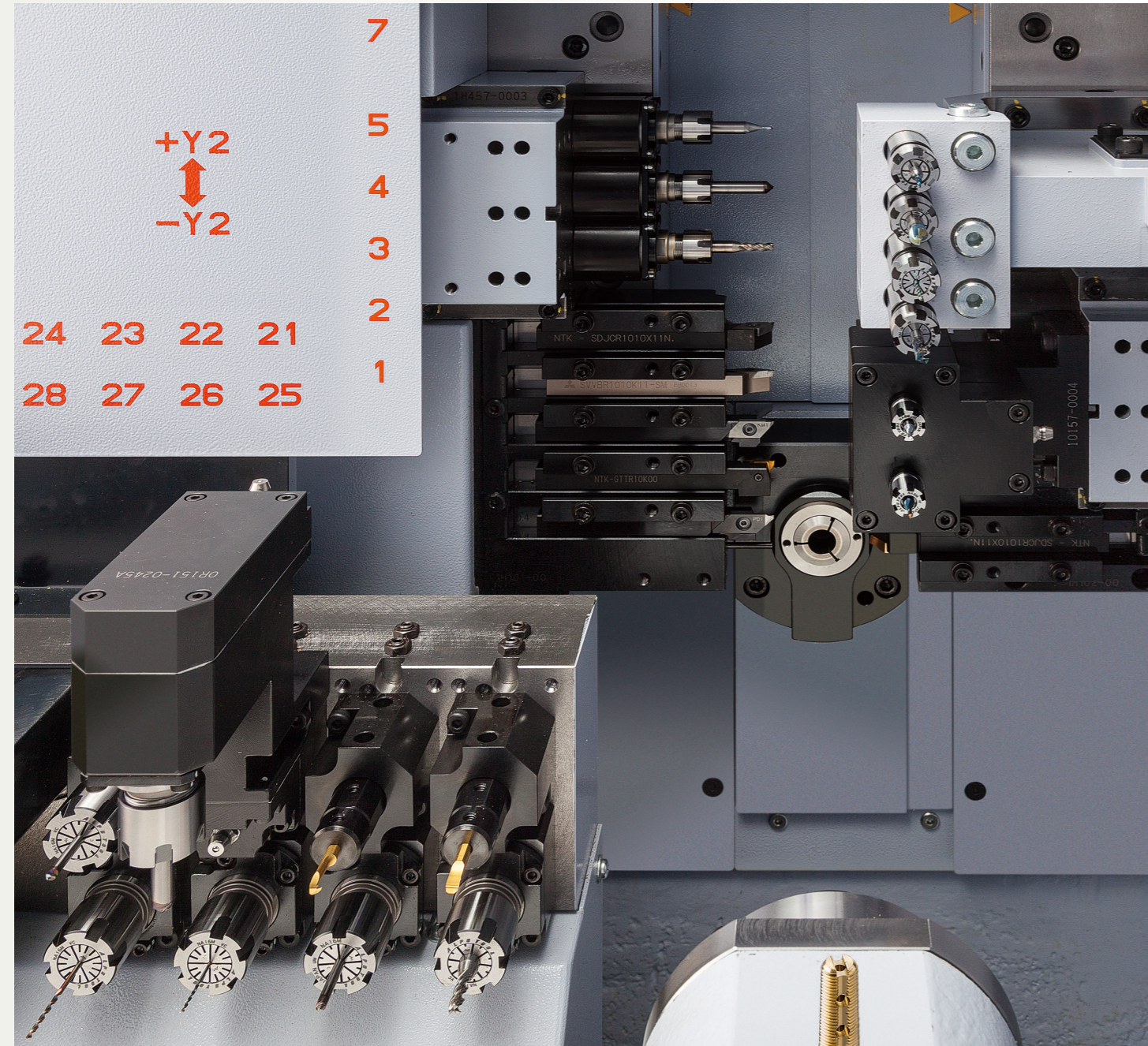
SWISS TYPE AUTOMATIC LATHE equipped with star motion control system 

# SW-12RII



SWISS TYPE AUTOMATIC LATHE equipped with star motion control system

# SW-12RII



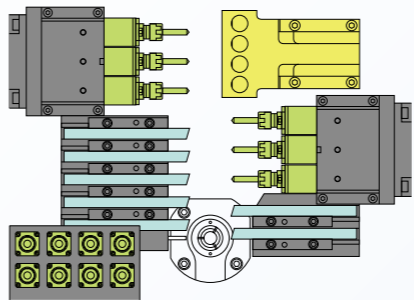


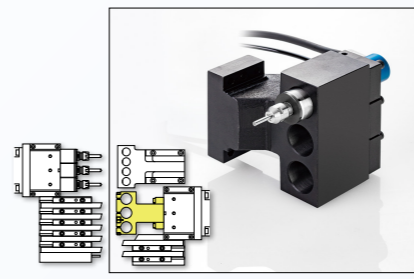
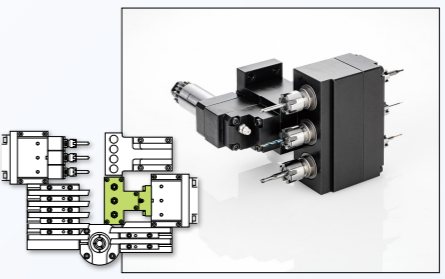
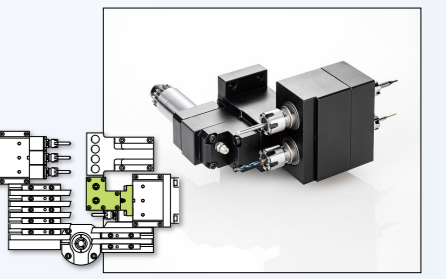
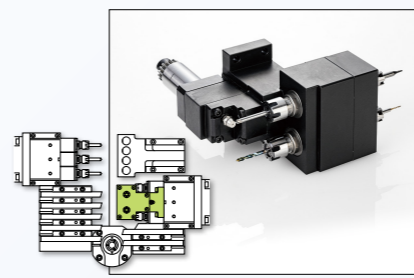
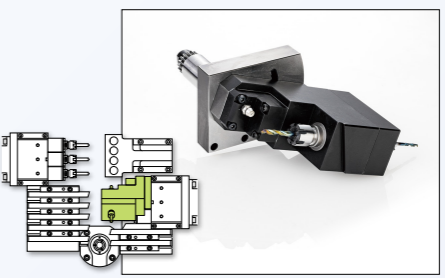
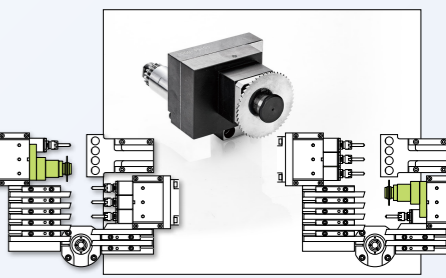
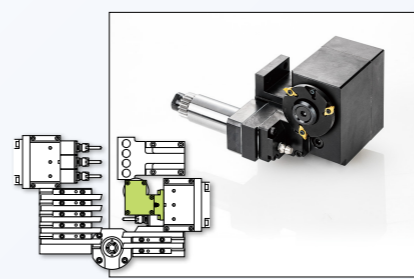
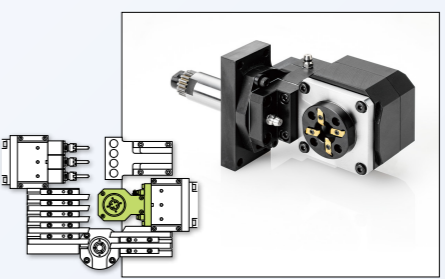
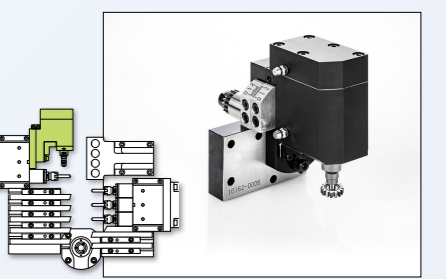
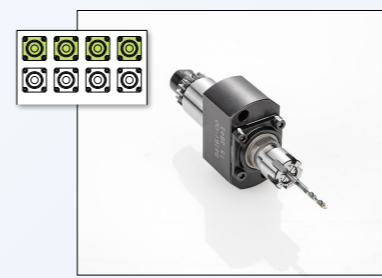
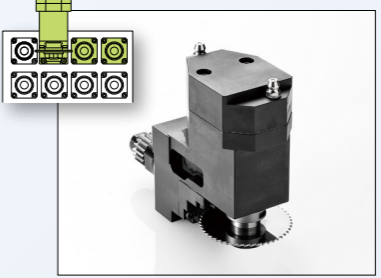
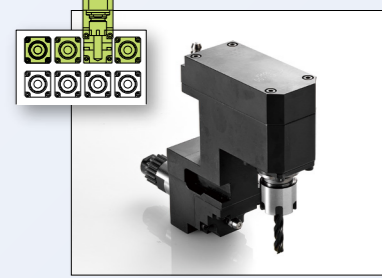
The SW-12RII is designed for production of small/complicated components for a variety of industries. This machine is designed with G.B./N.G.B. type switching to accommodate work for long and short parts. This machine is designed for production of a variety of small parts with complex design where precision and high productivity are required.



## The Latest SW Model Heading for the Highest capability in Machining of Small Diameter Workpieces

Thread whirling, angular hole drilling, polygon turning, hobbing and other capability for diverse operations.

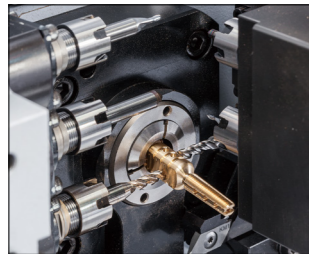
### SW-12R II – Tooling System

Opposing gang-type tool post		
		
Milling unit ER11	Milling unit ER11	Milling unit ER8
		
Triple holder for high-speed drilling unit	3-spindle opposing type front drilling unit	2-spindle opposing type front drilling unit (Type L)
		
2-spindle opposing type front drilling unit (Type T)	Angular hole drilling unit adjustable type	Slotting unit
		
Polygon machining unit	Thread whirling unit	Hob machining unit
8-spindle backworking unit		
		
Milling unit ER11 (for back working)	Slotting unit (for back working)	Cross drilling unit (for back working)

**Major features of SW-12R II**

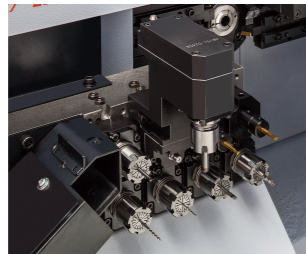
- 01** The opposing gang-type tool post is independently controlled to carry out simultaneous machining of turning, cross drilling, milling and face working.
- 02** Variety of tool blocks available for a broad range of complex machining.
- 03** In addition, a guide bush/non-guide bush type switching function allows selection of the most suitable machining for both short and long workpieces.

**A combination of the opposing gang-type tool post and the tool post designed for back 8-spindle unit with Y-axis control function eases quick and flexible machining of complicated parts.**



Reduced cutting time by simultaneous machining

**Independently controlled opposing gang-type tool post**



Upgraded complex machining capability on the back side

**8-spindle backworking unit with Y-axis control function**

**Improved productivity** Overall reduction of cycle time on the main and back-working operation.

- The opposing gang-type tool posts are independently controlled and allows various types of simultaneous machining.
- The tool post especially designed for the back 8-spindle unit with Y-axis control function achieves efficient overlapping machining on the back/side sides.
- The Star Motion Control System drastically reduces idle time.

**Realization of higher functionality** Substantial functions such as complex machining capability to enable flexible machining.

- The gang-type tool post can accommodate a variety of power tool units for enhanced complex machining capabilities.
- The tool post designed for the back 8-spindle unit with Y-axis control function improves complex machining capabilities on the back side.
- The guide bush and non-guide bush types can be switched over depending on the total workpiece length, and drastically reduces remnant material lengths.

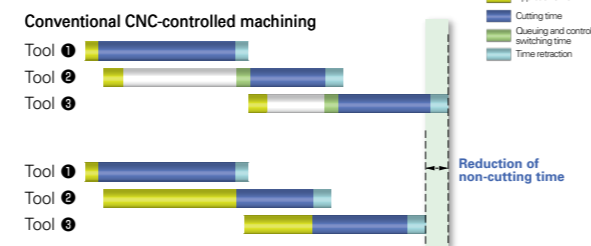
**Pursuing higher accuracy** Smooth spindle movement and precise indexing to achieve high accuracy.

- The Star Motion Control System eliminates machine vibration by controlling the smooth spindle movement.
- The built-in type main and sub spindles achieve improved indexing accuracy.

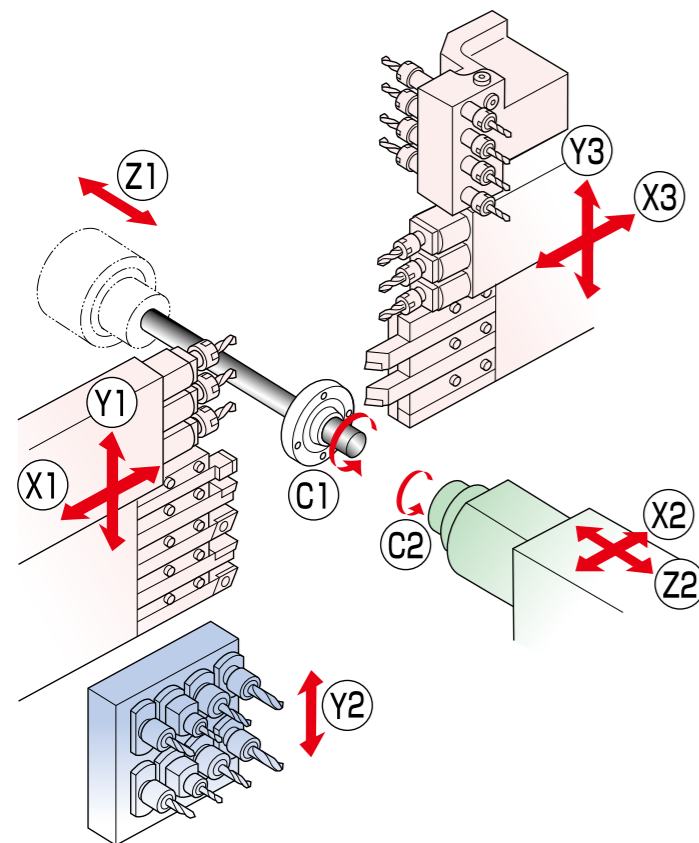
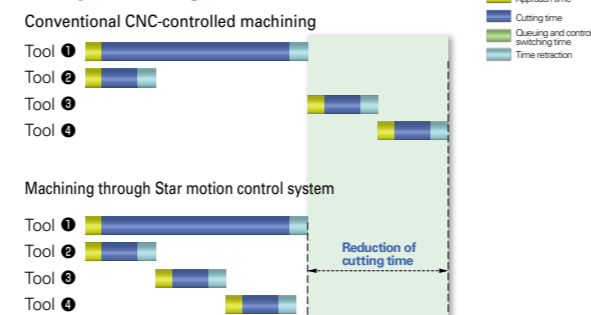
By the program optimization, the time required for the processes of [Disengagement], [Next tool selection] and [Approach] can be minimized to reduce the non-cutting time.

**Star Motion Control System**

**1 Concept of reduction of non-cutting time**



**2 Concept of cutting time reduction**

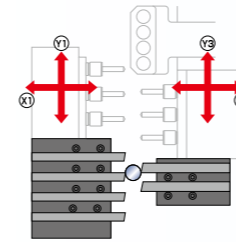


**SW-12RII – Machining variations**

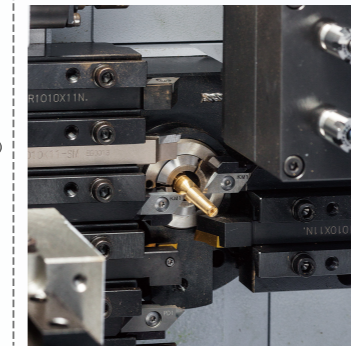
**01 Front-end working**

The independently controlled opposing gang-type tool post allows various types of simultaneous machining and reduces the machining time.

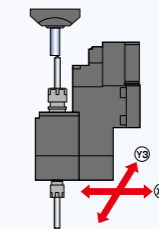
**Balance cutting**



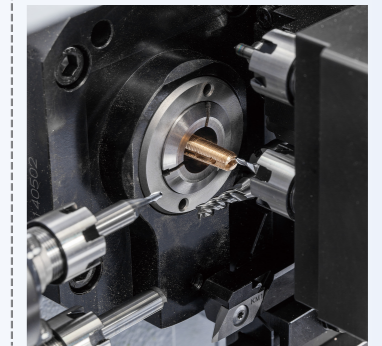
**VARIATION 01**



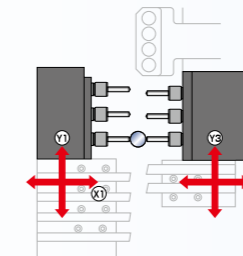
**Front off-center drilling/milling**



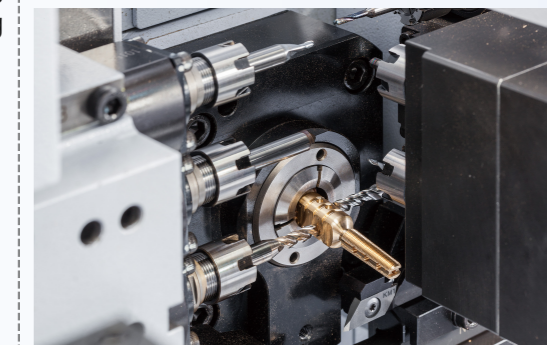
**VARIATION 02**



**Opposing simultaneous cross drilling**



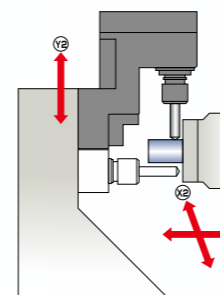
**VARIATION 03**



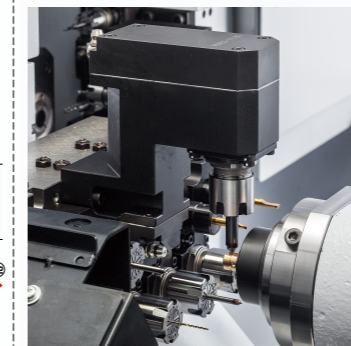
**02 Rear-end working**

Varied back workings allowed by back 8-spindle unit with Y-axis control for optimum machining.

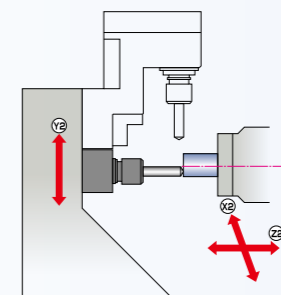
**Back cross drilling**



**VARIATION 01**



**Back off-center face drilling/milling**



**VARIATION 02**



## □ Standard Machine Specifications

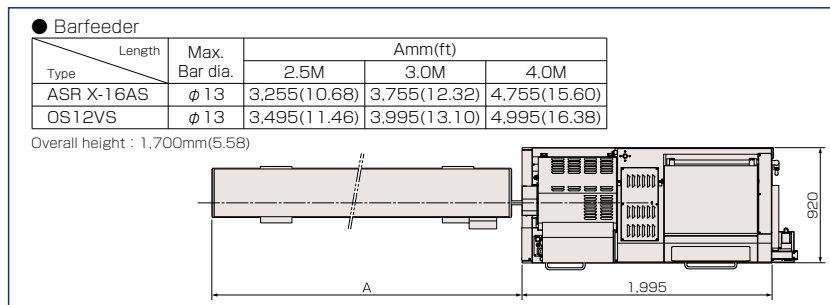
Item		Specifications	
Max. machining diameter		φ13mm (33/64in)	
Max. headstock stroke	Standard	135mm (5-5/16in)	
	R.M.G.B. type	95mm(3-47/64in) : OP	
		N.G.B. type	Bar diameter×2.5(Max.30mm)(Max.1-3/16in)
Tool post configuration	Front	Turning tool+Power-driven tool	
	Rear	Turning tool+4-spindle sleeve holder+Power-driven tool	
Tool	Number of tools	Front	5 tools
		Rear	2 tools
	Tool shank	□10mm	
4-Spindle sleeve holder	Number of tools		Front 4 tools
			Rear 4 tools
	Max. drilling capability		φ8mm (5/16in)
Max. tapping capability		M8×P1.25	
Power driven att.	Number of tools	Front	3pos.
		Rear	3pos.
	Max. drilling capability		φ5mm (3/16in)
Max. tapping capability		M4×P0.7	
Spindle speed		Max.12,000min <sup>-1</sup>	
Drive motor		1.0kW(continuous)/1.2kW(5min./30%ED)	
Rapid feed rate		35m/min(X2, Y1, Y3, Z1, Z2) 24m/min(X1, X3), 15m/min(Y2)	
Main spindle indexing angle		C-axis control	
Main spindle speed		Max.15,000min <sup>-1</sup>	
Main spindle motor		2.2kW(continuous)/3.7kW(10min./25%ED)	
Coolant tank capacity		139ℓ	
Dimensions (W×D×H)		1,995×920×1,700mm	
Center height		1,090mm	
Weight		2,100kg	
Power consumption		4.4kVA	
A-weighted sound pressure : note-1		79dB	

## □ Backworking Attachment Specifications

Item		Specifications	
Max. chucking diameter		φ13mm (33/64in)	
Max. length for front ejection		80mm (3-5/32in)	
Max. parts projection length		20mm (25/32in)	
8-spindle backworking unit	Number of tools	Stationary tool	Max. 8 tools
		Power driven tool	Max. 8 tools
	Max. drilling capability	Stationary tool	φ8mm (5/16in)
		Power driven tool	φ5mm (3/16in)
	Max. tapping capability	Stationary tool	M6×P1.0
		Power driven tool	M4×P0.7
Power-driven att. spindle speed		Max.12,000min <sup>-1</sup>	
Power-driven att. drive motor		1.0kW(continuous)/1.2kW(5min./30%ED)	
Sub spindle indexing angle		C-axis control	
Sub spindle speed		Max.15,000min <sup>-1</sup>	
Sub spindle motor		2.2kW(continuous)/3.7kW(10min./40%ED)	

## □ External Dimensions

unit : mm(ft)



\*Design features, specifications and technical execution are subject to change without prior notice.

\*This product is an export control item subject to the foreign exchange and foreign trade laws. Thus, before exporting this product, or taking it overseas, contact your STAR MICRONICS dealer.

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## □ Standard Accessories and Functions

- CNC unit FANUC 31i-B5
- Operation panel 10.4-inch color LCD display
- Pneumatic unit
- Automatic centralized lubrication unit
- Coolant level detector
- Door interlock system
- Broken cut-off tool detector
- Parts ejection detector
- Drive unit for revolving guide bush
- Revolving guide bush unit
- Cs contouring control (main/sub)
- Spindle clamp unit (main/sub)
- Main/Sub collet
- 5-station tool holder □10mm
- 2-station tool holder □10mm
- Drive unit for power-driven attachment (front/rear)
- 4-spindle sleeve holder
- 8-spindle backworking unit with Y axis control function
- Drive unit for power-driven attachment (8-spindle backworking unit)
- Air purge unit for revolving guide bush
- Sub spindle air purge unit
- Automatic bar feeder interface
- RS-232C interface
- Work light
- Leakage breaker

## □ Optional Accessories and Functions

- Coolant flow detector
- Water removal unit
- Beacon
- Rotary magic guide bush unit
- For pneumatic unit rotary magic guide bush
- Guide bush mount
- Parts conveyor
- Parts receptacle
- Parts separator unit A
- Main spindle inner tube
- Sub spindle air blow unit
- Parts ejector (Spring type)
- Parts ejector (Air cylinder type)
- Parts ejector with guide tube
- Parts stopper unit
- Coolant unit (6.9MPa/2.5MPa/0.7MPa)
- Coolant unit signal cable
- Coolant unit power cable
- Coolant valve
- Coolant pipings
- Transformer
- Transformer CE marking version
- Cable for CE marking version
- CE marking version

Note)

The machining capacities apply to SUS303 material. The machining capacities may differ from listed values depending on the machining conditions, such as the material to be machined or the tools to be used.

note-1 :

- Measures conforming to ISO standard.
- A-weighted sound pressure is a general assessment standard characteristic that corrected the sound level to human acoustic sense.

**9001 ISO 14001**  
CERTIFIED

<http://www.star-m.jp/eng/>

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